Rogers (W. B.)

Multilocular Cystic Tumor of Inferior Maxilla.*

SURGICAL CLINIC, JANUARY, 1897.

By W. B. ROGERS, M.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery in Memphis Hospital Medical College, Memphis, Tenn.

GENTLEMEN—I present you today a case of unusual interest—first, because of the size to which the growth has been allowed to attain in this day of surgical advancement; second, it illustrates how much destruction may be caused by a tumor which is in itself nonmalignant; again, it emphasizes to you the truth of the rule I have often repeated to you—"All tumors should be removed while yet small."

Nathan Watson, 38 years old, residence Mississippi. Eight years ago he had large tumor on right half of body of lower maxilla, and which I removed at this clinic. No notes were kept, and I am unable to say now what was the nature of the growth, but the line of incision, you will see, still marks the lower lip, just to the right. He recovered promptly from the operation, and the parts remained well for five years.

Three years ago the present growth began on the right side and extended to the left; it progressed slowly until about a year ago, since which time it has increased more rapidly to its present dimensions. Examining we find the tumor involves and has destroyed the entire body of the bone. The outline of each ramus we readily trace from its temporal articulation to

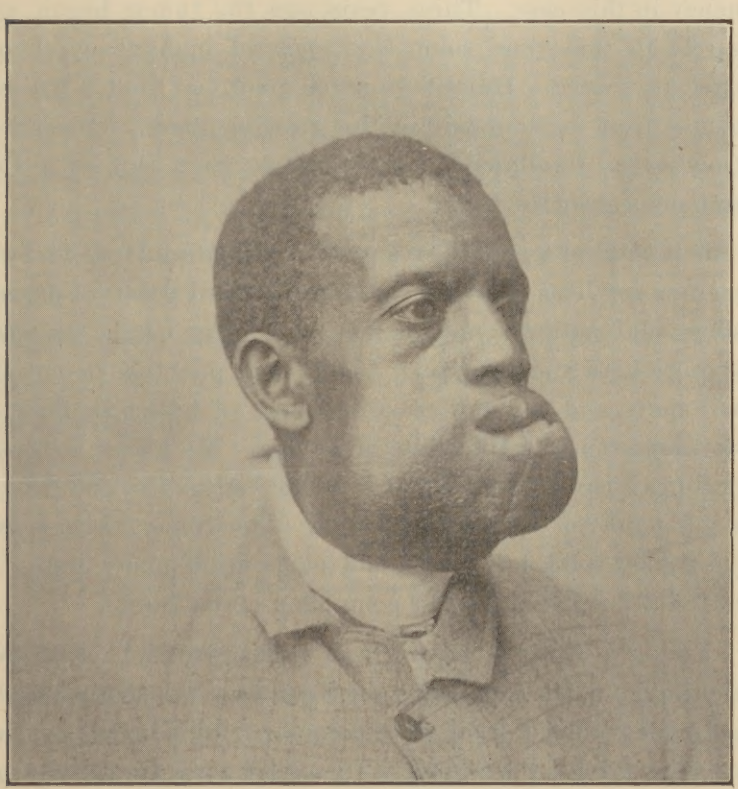
* Reprinted from Memphis Medical Monthly, May, 1897.

the corresponding angle, and then the outline of the jaw loses its identity in the bulging mass. Inspecting the oral cavity, we find it occupied in toto by the growth, and the tongue so pressed down and backward that its tip cannot be put forward to within two and a half inches of the upper incisor teeth. The lower teeth are irregularly scattered from their normal sites, loose and impossible of being opposed to the upper ones. No food can be masticated; nourishment is confined to liquids and mushy substances. Raising the chin the mass is seen to depress the hyoid bone and thyroid cartilage very markedly. Articulation is difficult and very indistinct. General health, you see, is poor; debility is marked, and for a year he has had

No. 1. Nathan Watson—Multilocular Cystic Tumor of Inferior Maxilla.

fevers recurring every few days and uncontrollable by quinine.

With this much of the history and examination, let us consider the case from a clinical standpoint. Is the growth malignant or not? Carefully examining the tumor on its cutaneous aspect, as well as mucous, I find skin movable and nonadherent; mucous membrane closely adherent, but not *disintegrated* nor *infiltrated* by the growth; no enlarged veins, no enlarged glands, no œdema, no extension of disease beyond the bone in which it began, no destruction of tissue outside of the former bony envelope except by pressure; a displacement of surrounding parts, but no involvement of their tissues; locally *no signs* of malignancy; the only *symptoms* of malig-



No. 2. Nathan Watson—Multilocular Cystic Tumor of Inferior Maxilla.

nancy are the fever and emaciation. The loss of seventy pounds in a year may in part be attributed to inability to take proper nourishment; and the fever, while septic in character, may be due to diseased conditions coming on in otherwise nonmalignant growths. All tumors are composed of cells seen in the human body; the tissues of a tumor are functionless, and of a low grade of vitality; the normal regulators of nutrition (nerves) are wanting in tumors. Hence, as I have often called to your attention, tumors are liable to diseases (abscess, cheesy degenerations, disintegrations, cysts), and may become infected and poisoned as other *healthy* tissues do; and thus the fever is not of necessity a sign of malignancy in this case. Three years ago the tumor began, and surely in that time some *local signs* of malignancy should have presented. He suffers much pain, but that, I believe, comes from tension within the growing mass. Considered from every standpoint, I should look upon this as a *non-malignant* growth.

Is it solid or cystic in structure? Palpating it we find numerous soft, elastic points separated by hard points or depressions; fluctuation is not distinct, and on the whole the mass is quite hard and resistant. Here I will puncture one of the soft spots, and you now see a discharge of brownish fluid, of the consistence of the white of an egg. My finger, inserted, outlines a cavity with capacity of half an ounce, and detects a soft point on the partition wall. The tumor, then, is evidently not solid, but cystic, and made up of many cysts. It is a multilocular tumor, or compound cystic tumor.

You ask, What is the origin of such a growth? Well, cystic tumors of the bone are sometimes due to a tooth (usually permanent) defective in development, or misdirected, so that it never reaches the surface of the alveola, and the follicle surrounding the crown is the source of the cystic tumor — an

exudation cyst—always a single sac tumor. Small cysts originate at the fang (point), and may become large—a single sac tumor. Multilocular cysts of the inferior maxilla are not usually proliferation cysts, but are formed as other new-formed sacs — i. e., a congestion occurs from cold or injury, or from an adjacent diseased tooth, and effusion or hemorrhage into connective tissues (cancellous tissue) follows; this, as an irritant, produces a surrounding cover of fibrous material, which goes to form a cyst or sac. And lastly, multilocular cysts are said to be formed by an ingrowing of epithelium from the mucous membrane on the alveola.

Is operation justifiable? And how extensive should it be? His condition is bad, pulse 100, temperature 100°. I have had him under treatment hoping to improve it, but without success; and if operation is to do good, delay will not enhance the chances. I have satisfied myself that all bony substance has been destroyed by pressure, and this mass is composed of cysts separated by heavy fibrous partitions. It would do no good to try to leave any outline of a jawbone, and I shall remove the entire mass from angle to angle.

The dangers attendant on operation in this case are suffocation by blood running into windpipe, shock, and afterward septic infection.

Prognosis.

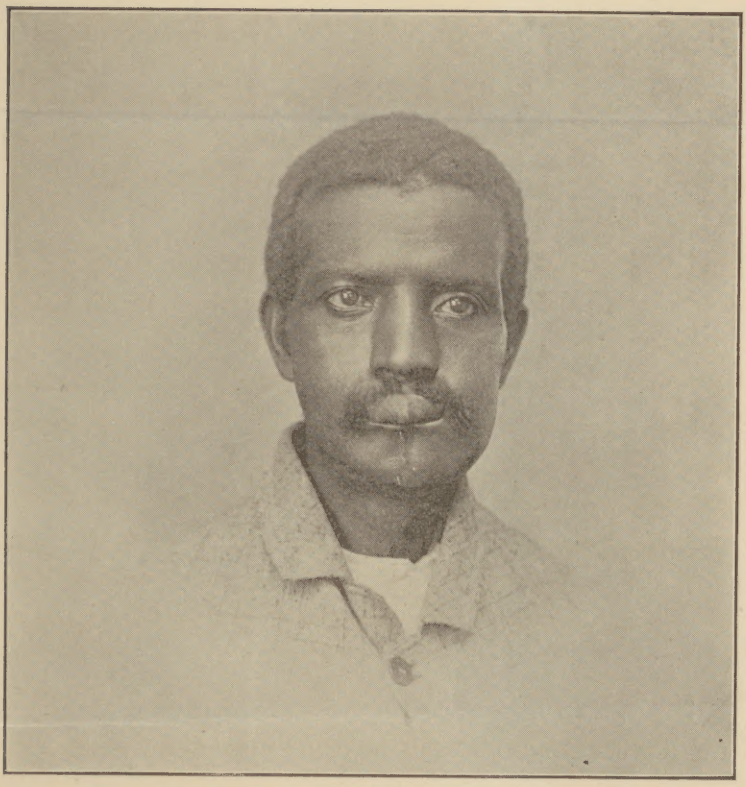
- Without operation ..... Death from exhaustion—due to { Sepsis or Suffocation.
- With operation { Death may occur from { *a*, Suffocation caused by blood getting into the trachea. } both preventable by preliminary tracheotomy.
  - *b*, Shock due to { Loss of blood or prolonged anesthesia } both preventable by preliminary tracheotomy.
  - *c*, Sepsis—prevented by drainage, cleanliness
  - or Recovery.

Tracheotomy. The administration of ether or chloroform in the usual way in this case would be attended by no little risk, and I shall do a tracheotomy under cocaine anesthesia, and follow with chloroform, *inhaled* through the tracheal wound,

for the main operation. Chloroform will be less likely to produce bronchitis than ether administered so directly into the lungs. (The patient was placed on his back, and head thrown far backward; the greatest distance attainable from sternum to thyroid cartilage was one and three-fourth inches. It was with much difficulty that high tracheotomy was safely done, and a soft rubber catheter was passed into the windpipe. By this means the anesthetist was placed where he would not conflict with the operator or assistants, thereby admitting of continuous, even administration of the anesthetic, and of a more rapid performance of the operation on the tumor, lessening loss of blood and shock.)

Excision of Tumor. An incision was begun on the lower lip, following the old incision, down to well under the tumor, three and a half inches, and thence another to the right about three inches. The two flaps were then turned downward and outward. The tumor was cut into, and upward of twenty cysts evacuated of their contents, varying in consistency from water to mush, and of various colors. A few pieces of bone disconnected were found and removed. The entire fibro-cystic mass, with its posterior limiting wall, was removed from angle to angle; only two ligatures were found necessary. The flaps were brought together with silk gut sutures, and drainage left below.

Eight weeks later patient was presented to the class; had gained seventeen pounds, and was enjoying excellent health; articulation distinct.



No. 3. Nathan Watson—Eight Weeks After Removal of Multilocular Cystic Tumor (Including Body of Lower Jaw from Angle to Angle).